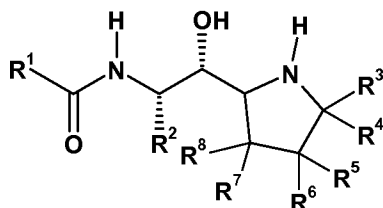


### Amendments to the Claims

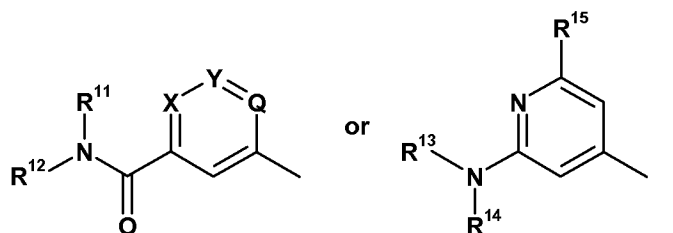
Claim 1 (Original): A compound of Formula I:



I

where:

R<sup>1</sup> is (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl), (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>2</sub>-C<sub>6</sub> alkenyl), (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>2</sub>-C<sub>6</sub> alkynyl) or C<sub>3</sub>-C<sub>7</sub> cycloalkyl, each optionally substituted with up to three groups independently selected from halo, hydroxy, thiol, cyano, trifluoromethyl, trifluoromethoxy, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>7</sub> cycloalkoxy, oxo, and NR<sup>9</sup>R<sup>10</sup>, hydrogen, biphenyl



substituted with halo,

X is CH, N, or N<sup>+</sup>-O<sup>-</sup>;

Y is CR<sup>16</sup>, N, or N<sup>+</sup>-O<sup>-</sup>;

Q is CR<sup>17</sup>, N, or N<sup>+</sup>-O<sup>-</sup>;

R<sup>2</sup> is C<sub>1</sub>-C<sub>3</sub> alkyl, benzyl optionally monosubstituted in the phenyl ring with a substituent selected from the group consisting of halo, C<sub>1</sub>-C<sub>6</sub> alkoxy optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl, and C<sub>1</sub>-C<sub>6</sub> alkylthio optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl, or benzyl optionally disubstituted in the phenyl ring with a first substituent independently selected from halo and a second substituent independently selected from halo, C<sub>1</sub>-C<sub>6</sub> alkoxy optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl, and C<sub>1</sub>-C<sub>6</sub> alkylthio optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl;

R<sup>3</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sup>4</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, or phenyl;

R<sup>3</sup> and R<sup>4</sup> taken together with the carbon to which they are attached form a C<sub>3</sub>-C<sub>6</sub> cycloalkyl ring;

$R^5$  is hydrogen, fluoro, trifluoromethyl,  $R^{32}$ , or phenyl optionally monosubstituted with  $C_1$ - $C_6$  alkyl or  $C_1$ - $C_6$  alkoxy;

$R^6$  is fluoro, hydroxy, *p*-toluenesulfonyloxy,  $R^{34}$ ,  $-\text{CH}_2\text{C}(\text{O})\text{R}^{35}$ , or  $-\text{OC}(\text{O})\text{NHR}^{36}$ ; or  $R^5$  and  $R^6$  taken together form  $=\text{CHC}(\text{O})(\text{C}_1\text{-C}_4 \text{ alkoxy})$ ;

$R^7$  is hydrogen or fluoro; or  $R^6$  and  $R^7$  taken together form a bond;

$R^8$  is hydrogen or fluoro;

$R^9$  is hydrogen,  $C_1$ - $C_6$  alkyl, or phenyl;

$R^{10}$  is hydrogen,  $C_1$ - $C_6$  alkyl, phenyl,  $-\text{C}(\text{O})(\text{C}_1\text{-C}_6 \text{ alkyl})$ , or  $-\text{SO}_2(\text{C}_1\text{-C}_6 \text{ alkyl})$ ;

$R^{11}$  and  $R^{12}$  are independently selected from the group consisting of methyl, ethyl, and propyl;

$R^{13}$  is hydrogen or  $C_1$ - $C_6$  alkyl;

$R^{14}$  is  $C_3$ - $C_5$  cycloalkyl,  $C_1$ - $C_6$  alkyl, or  $-\text{CH}_2\text{R}^{18}$ ;

$R^{15}$  is  $-\text{CF}_2\text{R}^{19}$ ,  $-\text{OR}^{20}$ ,  $-\text{CH}_2\text{C}(\text{O})\text{CH}_3$ ,  $-\text{S}(\text{O})_{1-2}\text{R}^{21}$ ,  $-\text{NR}^{22}\text{SO}_2\text{R}^{23}$ , ( $C_1$ - $C_3$  alkoxy)-carbonyl, phenyl optionally substituted with halo, 1,3-dioxolan-2-yl, 1,3-dioxan-2-yl, 1,1-dioxo-2,3,4,5-tetrahydroisothiazol-2-yl, or tetrazol-5-yl optionally substituted with  $C_1$ - $C_3$  alkyl;

$R^{16}$  is hydrogen, chloro, isobutyl,  $\text{CH}_2\text{R}^{24}$ ,  $\text{CF}_2\text{R}^{25}$ , 1,1,1-trifluoro-2-hydroxyeth-2-yl,  $C_2$ - $C_4$  alkenyl optionally substituted with one or two fluorine atoms,  $\text{OR}^{26}$ ,  $\text{C}(\text{O})\text{R}^{27}$ , N(methyl)(methylsulfonyl), N(methyl)(acetyl), pyrrolidin-2-on-1-yl, methylsulfonyl, N,N-dimethylaminosulfonyl, phenyl optionally substituted with one or two substituents selected from the group consisting of hydroxymethyl, methoxy, fluoro, and methylsulfonyl, 1,3-dioxolan-2-yl, 1,3-dithiolan-2-yl, 1,3-oxathiolan-2-yl, 1,3-dioxan-2-yl, 1,3-dithian-2-yl, pyridinyl, thiazolyl, oxazolyl, or 1,2,4-oxadiazolyl optionally substituted with methyl;

$R^{17}$  is hydrogen or fluoro;

$R^{18}$  is ethynyl or cyclopropyl;

$R^{19}$  is hydrogen or methyl;

$R^{20}$  is difluoromethyl or methanesulfonyl;

$R^{21}$  is  $C_1$ - $C_4$  alkyl,  $C_3$ - $C_6$  cycloalkyl, phenyl, or  $-\text{NR}^{30}\text{R}^{31}$ ;

$R^{22}$  is hydrogen,  $C_1$ - $C_3$  alkyl optionally substituted with up to 3 fluorine atoms, or  $C_3$ - $C_6$  cycloalkyl;

$R^{23}$  is  $C_1$ - $C_3$  alkyl or  $C_3$ - $C_6$  cycloalkyl;

$R^{24}$  is fluoro, hydroxy, or  $C_1$ - $C_3$  alkoxy;

$R^{25}$  is hydrogen, phenyl, or furyl;

$R^{26}$  is  $C_1$ - $C_3$  alkyl optionally substituted with one or two fluorine atoms;

$R^{27}$  is  $C_1$ - $C_3$  alkyl,  $C_3$ - $C_5$  cycloalkyl,  $C_2$ - $C_3$  alkenyl,  $C_1$ - $C_3$  alkoxy,  $NR^{28}R^{29}$ , pyrrolidin-1-yl optionally substituted with methyl or one or two fluorine atoms, piperidin-1-yl, phenyl, pyridinyl, or furyl;

$R^{28}$  is hydrogen or methyl;

$R^{29}$  is methyl, ethyl, or propyl;

$R^{30}$  is hydrogen or methyl;

$R^{31}$  is methyl; or

$R^{30}$  and  $R^{31}$  taken together with the nitrogen atom to which they are attached form a pyrrolidine or piperidine ring;

$R^{32}$  is  $C_1$ - $C_{10}$  alkyl optionally substituted with 1-6 fluorine atoms, oxo, or one or two hydroxy groups,  $C_2$ - $C_6$  alkenyl, or  $-(CH_2)_{0-3}-R^{33}$ ;

$R^{33}$  is  $C_3$ - $C_7$  cycloalkyl or phenyl each optionally substituted with one or two substituents independently selected from the group consisting of halo,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy, hydroxy, trifluoromethyl, and trifluoromethoxy, or  $R^{33}$  is adamantyl;

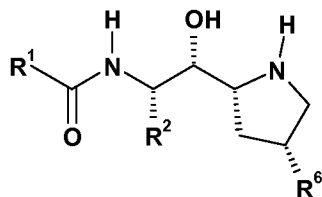
$R^{34}$  is hydrogen,  $R^{32}$ , or  $-(CH_2)_{0-2}-OR^{32}$ ;

$R^{35}$  is hydroxy,  $C_1$ - $C_6$  alkoxy, or  $NR^{37}R^{38}$  where  $R^{37}$  and  $R^{38}$  are independently hydrogen or  $C_1$ - $C_6$  alkyl, or  $R^{37}$  and  $R^{38}$ , taken together with the nitrogen to which they are attached, form a piperidine ring optionally substituted with  $C_1$ - $C_6$  alkyl, a homopiperidine ring, a morpholine ring, or a pyrrolidine ring optionally substituted with  $(C_1$ - $C_6$  alkoxy)methyl;

$R^{36}$  is  $C_1$ - $C_6$  alkyl or adamantyl;

or a pharmaceutically acceptable salt thereof; provided that: a) no more than one of X, Y, and Q may be N or  $N^+-O^-$ ; and b) when X is CH, Y is  $CR^{16}$ , and Q is  $CR^{17}$ , then one of  $R^{16}$  and  $R^{17}$  is other than hydrogen.

Claim 2 (Currently amended): A compound of Claim 1 of Formula I(a):

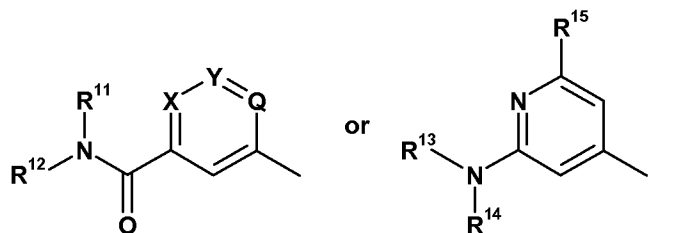


I(a)

where:

$R^1$  is  $(C_3$ - $C_7$  cycloalkyl)<sub>0-1</sub>( $C_1$ - $C_6$  alkyl),  $(C_3$ - $C_7$  cycloalkyl)<sub>0-1</sub>( $C_2$ - $C_6$  alkenyl),  $(C_3$ - $C_7$  cycloalkyl)<sub>0-1</sub>( $C_2$ - $C_6$  alkynyl) or  $C_3$ - $C_7$  cycloalkyl, each optionally substituted with up to three

groups independently selected from halo, hydroxy, thiol, cyano, trifluoromethyl, trifluoromethoxy, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>7</sub> cycloalkoxy, oxo, and NR<sup>9</sup>R<sup>10</sup>, hydrogen, biphenyl



substituted with halo,

X is CH, N, or N<sup>+</sup>-O<sup>-</sup>;

Y is CR<sup>16</sup>, N, or N<sup>+</sup>-O<sup>-</sup>;

Q is CR<sup>17</sup>, N, or N<sup>+</sup>-O<sup>-</sup>;

R<sup>2</sup> is C<sub>1</sub>-C<sub>3</sub> alkyl, benzyl optionally monosubstituted in the phenyl ring with a substituent selected from the group consisting of halo, C<sub>1</sub>-C<sub>6</sub> alkoxy optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl, and C<sub>1</sub>-C<sub>6</sub> alkylthio optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl, or benzyl optionally disubstituted in the phenyl ring with a first substituent independently selected from halo and a second substituent independently selected from halo, C<sub>1</sub>-C<sub>6</sub> alkoxy optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl, and C<sub>1</sub>-C<sub>6</sub> alkylthio optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl;

R<sup>6</sup> is fluoro, hydroxy, *p*-toluenesulfonyloxy, R<sup>34</sup>, -CH<sub>2</sub>C(O)R<sup>35</sup>, or -OC(O)NHR<sup>36</sup>; or R<sup>5</sup> and R<sup>6</sup> taken together form =CHC(O)(C<sub>1</sub>-C<sub>4</sub> alkoxy);

R<sup>9</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, or phenyl;

R<sup>10</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, -C(O)(C<sub>1</sub>-C<sub>6</sub> alkyl), or -SO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl);

R<sup>11</sup> and R<sup>12</sup> are independently selected from the group consisting of methyl, ethyl, and propyl;

R<sup>13</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sup>14</sup> is C<sub>3</sub>-C<sub>5</sub> cycloalkyl, C<sub>1</sub>-C<sub>6</sub> alkyl, or -CH<sub>2</sub>R<sup>18</sup>;

R<sup>15</sup> is -CF<sub>2</sub>R<sup>19</sup>, -OR<sup>20</sup>, -CH<sub>2</sub>C(O)CH<sub>3</sub>, -S(O)<sub>1-2</sub>R<sup>21</sup>, -NR<sup>22</sup>SO<sub>2</sub>R<sup>23</sup>, (C<sub>1</sub>-C<sub>3</sub> alkoxy)-carbonyl, phenyl optionally substituted with halo, 1,3-dioxolan-2-yl, 1,3-dioxan-2-yl, 1,1-dioxo-2,3,4,5-tetrahydroisothiazol-2-yl, or tetrazol-5-yl optionally substituted with C<sub>1</sub>-C<sub>3</sub> alkyl;

R<sup>16</sup> is hydrogen, chloro, isobutyl, CH<sub>2</sub>R<sup>24</sup>, CF<sub>2</sub>R<sup>25</sup>, 1,1,1-trifluoro-2-hydroxyethyl-2-yl, C<sub>2</sub>-C<sub>4</sub> alkenyl optionally substituted with one or two fluorine atoms, OR<sup>26</sup>, C(O)R<sup>27</sup>, N(methyl)(methylsulfonyl), N(methyl)(acetyl), pyrrolidin-2-on-1-yl, methylsulfonyl, N,N-dimethylaminosulfonyl, phenyl optionally substituted with one or two substituents selected from the group consisting of hydroxymethyl, methoxy, fluoro, and methylsulfonyl, 1,3-dioxolan-2-yl,

1,3-dithiolan-2-yl, 1,3-oxathiolan-2-yl, 1,3-dioxan-2-yl, 1,3-dithian-2-yl, pyridinyl, thiazolyl, oxazolyl, or 1,2,4-oxadiazolyl optionally substituted with methyl;

$R^{17}$  is hydrogen or fluoro;

$R^{18}$  is ethynyl or cyclopropyl;

$R^{19}$  is hydrogen or methyl;

$R^{20}$  is difluoromethyl or methanesulfonyl;

$R^{21}$  is  $C_1$ - $C_4$  alkyl,  $C_3$ - $C_6$  cycloalkyl, phenyl, or  $-NR^{30}R^{31}$ ;

$R^{22}$  is hydrogen,  $C_1$ - $C_3$  alkyl optionally substituted with up to 3 fluorine atoms, or  $C_3$ - $C_6$  cycloalkyl;

$R^{23}$  is  $C_1$ - $C_3$  alkyl or  $C_3$ - $C_6$  cycloalkyl;

$R^{24}$  is fluoro, hydroxy, or  $C_1$ - $C_3$  alkoxy;

$R^{25}$  is hydrogen, phenyl, or furyl;

$R^{26}$  is  $C_1$ - $C_3$  alkyl optionally substituted with one or two fluorine atoms;

$R^{27}$  is  $C_1$ - $C_3$  alkyl,  $C_3$ - $C_5$  cycloalkyl,  $C_2$ - $C_3$  alkenyl,  $C_1$ - $C_3$  alkoxy,  $NR^{28}R^{29}$ , pyrrolidin-1-yl optionally substituted with methyl or one or two fluorine atoms, piperidin-1-yl, phenyl, pyridinyl, or furyl;

$R^{28}$  is hydrogen or methyl;

$R^{29}$  is methyl, ethyl, or propyl;

$R^{30}$  is hydrogen or methyl;

$R^{31}$  is methyl; or

$R^{30}$  and  $R^{31}$  taken together with the nitrogen atom to which they are attached form a pyrrolidine or piperidine ring;

$R^{32}$  is  $C_1$ - $C_{10}$  alkyl optionally substituted with 1-6 fluorine atoms, oxo, or one or two hydroxy groups,  $C_2$ - $C_6$  alkenyl, or  $-(CH_2)_{0-3}-R^{33}$ ;

$R^{33}$  is  $C_3$ - $C_7$  cycloalkyl or phenyl each optionally substituted with one or two substituents independently selected from the group consisting of halo,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy, hydroxy, trifluoromethyl, and trifluoromethoxy, or  $R^{33}$  is adamantyl;

$R^{34}$  is hydrogen,  $R^{32}$ , or  $-(CH_2)_{0-2}-OR^{32}$ ;

$R^{35}$  is hydroxy,  $C_1$ - $C_6$  alkoxy, or  $NR^{37}R^{38}$  where  $R^{37}$  and  $R^{38}$  are independently hydrogen or  $C_1$ - $C_6$  alkyl, or  $R^{37}$  and  $R^{38}$ , taken together with the nitrogen to which they are attached, form a piperidine ring optionally substituted with  $C_1$ - $C_6$  alkyl, a homopiperidine ring, a morpholine ring, or a pyrrolidine ring optionally substituted with  $(C_1$ - $C_6$  alkoxy)methyl;

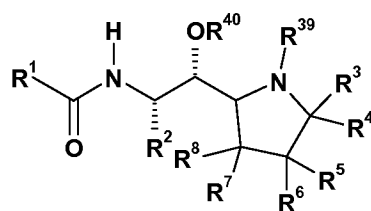
$R^{36}$  is  $C_1$ - $C_6$  alkyl or adamantyl;

or a pharmaceutically acceptable salt thereof; provided that: a) no more than one of X, Y, and Q may be N or N<sup>+</sup>-O<sup>-</sup>; and b) when X is CH, Y is CR<sup>16</sup>, and Q is CR<sup>17</sup>, then one of R<sup>16</sup> and R<sup>17</sup> is other than hydrogen.

Claims 3-7 (Cancelled)

Claim 8 (Previously presented): A pharmaceutical formulation comprising a compound of Claim 1, in combination with a pharmaceutically acceptable carrier, diluent, or excipient.

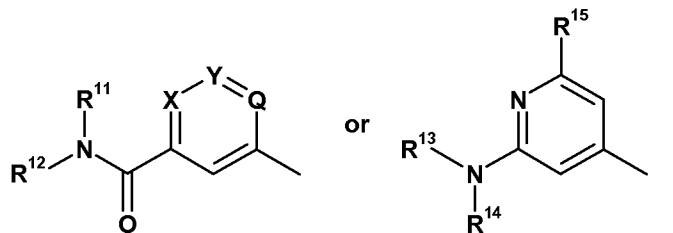
Claim 9 (Original) A compound of Formula III:



III

where:

R<sup>1</sup> is (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl), (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>2</sub>-C<sub>6</sub> alkenyl), (C<sub>3</sub>-C<sub>7</sub> cycloalkyl)<sub>0-1</sub>(C<sub>2</sub>-C<sub>6</sub> alkynyl) or C<sub>3</sub>-C<sub>7</sub> cycloalkyl, each optionally substituted with up to three groups independently selected from halo, hydroxy, thiol, cyano, trifluoromethyl, trifluoromethoxy, C<sub>1</sub>-C<sub>6</sub> alkoxy, C<sub>3</sub>-C<sub>7</sub> cycloalkoxy, oxo, and NR<sup>9</sup>R<sup>10</sup>, hydrogen, biphenyl



substituted with halo,

X is CH, N, or N<sup>+</sup>-O<sup>-</sup>;

Y is CR<sup>16</sup>, N, or N<sup>+</sup>-O<sup>-</sup>;

Q is CR<sup>17</sup>, N, or N<sup>+</sup>-O<sup>-</sup>;

R<sup>2</sup> is C<sub>1</sub>-C<sub>3</sub> alkyl, benzyl optionally monosubstituted in the phenyl ring with a substituent selected from the group consisting of halo, C<sub>1</sub>-C<sub>6</sub> alkoxy optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl, and C<sub>1</sub>-C<sub>6</sub> alkylthio optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl, or benzyl optionally disubstituted in the phenyl ring with a first substituent independently selected from halo and a second substituent independently selected from halo, C<sub>1</sub>-

C<sub>6</sub> alkoxy optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl, and C<sub>1</sub>-C<sub>6</sub> alkylthio optionally substituted in the alkyl chain with C<sub>3</sub>-C<sub>7</sub> cycloalkyl;

R<sup>3</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sup>4</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, or phenyl;

R<sup>3</sup> and R<sup>4</sup> taken together with the carbon to which they are attached form a C<sub>3</sub>-C<sub>6</sub> cycloalkyl ring;

R<sup>5</sup> is hydrogen, fluoro, trifluoromethyl, R<sup>32</sup>, or phenyl optionally monosubstituted with C<sub>1</sub>-C<sub>6</sub> alkyl or C<sub>1</sub>-C<sub>6</sub> alkoxy;

R<sup>6</sup> is fluoro, hydroxy, p-toluenesulfonyloxy, R<sup>34</sup>, -CH<sub>2</sub>C(O)R<sup>35</sup>, or -OC(O)NHR<sup>36</sup>; or R<sup>5</sup> and R<sup>6</sup> taken together form =CHC(O)(C<sub>1</sub>-C<sub>4</sub> alkoxy);

R<sup>7</sup> is hydrogen or fluoro; or R<sup>6</sup> and R<sup>7</sup> taken together form a bond;

R<sup>8</sup> is hydrogen or fluoro;

R<sup>9</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, or phenyl;

R<sup>10</sup> is hydrogen, C<sub>1</sub>-C<sub>6</sub> alkyl, phenyl, -C(O)(C<sub>1</sub>-C<sub>6</sub> alkyl), or -SO<sub>2</sub>(C<sub>1</sub>-C<sub>6</sub> alkyl);

R<sup>11</sup> and R<sup>12</sup> are independently selected from the group consisting of methyl, ethyl, and propyl;

R<sup>13</sup> is hydrogen or C<sub>1</sub>-C<sub>6</sub> alkyl;

R<sup>14</sup> is C<sub>3</sub>-C<sub>5</sub> cycloalkyl, C<sub>1</sub>-C<sub>6</sub> alkyl, or -CH<sub>2</sub>R<sup>18</sup>;

R<sup>15</sup> is -CF<sub>2</sub>R<sup>19</sup>, -OR<sup>20</sup>, -CH<sub>2</sub>C(O)CH<sub>3</sub>, -S(O)<sub>1-2</sub>R<sup>21</sup>, -NR<sup>22</sup>SO<sub>2</sub>R<sup>23</sup>, (C<sub>1</sub>-C<sub>3</sub> alkoxy)-carbonyl, phenyl optionally substituted with halo, 1,3-dioxolan-2-yl, 1,3-dioxan-2-yl, 1,1-dioxo-2,3,4,5-tetrahydroisothiazol-2-yl, or tetrazol-5-yl optionally substituted with C<sub>1</sub>-C<sub>3</sub> alkyl;

R<sup>16</sup> is hydrogen, chloro, isobutyl, CH<sub>2</sub>R<sup>24</sup>, CF<sub>2</sub>R<sup>25</sup>, 1,1,1-trifluoro-2-hydroxyeth-2-yl, C<sub>2</sub>-C<sub>4</sub> alkenyl optionally substituted with one or two fluorine atoms, OR<sup>26</sup>, C(O)R<sup>27</sup>, N(methyl)(methylsulfonyl), N(methyl)(acetyl), pyrrolidin-2-on-1-yl, methylsulfonyl, N,N-dimethylaminosulfonyl, phenyl optionally substituted with one or two substituents selected from the group consisting of hydroxymethyl, methoxy, fluoro, and methylsulfonyl, 1,3-dioxolan-2-yl, 1,3-dithiolan-2-yl, 1,3-oxathiolan-2-yl, 1,3-dioxan-2-yl, 1,3-dithian-2-yl, pyridinyl, thiazolyl, oxazolyl, or 1,2,4-oxadiazolyl optionally substituted with methyl;

R<sup>17</sup> is hydrogen or fluoro;

R<sup>18</sup> is ethynyl or cyclopropyl;

R<sup>19</sup> is hydrogen or methyl;

R<sup>20</sup> is difluoromethyl or methanesulfonyl;

R<sup>21</sup> is C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, phenyl, or -NR<sup>30</sup>R<sup>31</sup>;

$R^{22}$  is hydrogen,  $C_1$ - $C_3$  alkyl optionally substituted with up to 3 fluorine atoms, or  $C_3$ - $C_6$  cycloalkyl;

$R^{23}$  is  $C_1$ - $C_3$  alkyl or  $C_3$ - $C_6$  cycloalkyl;

$R^{24}$  is fluoro, hydroxy, or  $C_1$ - $C_3$  alkoxy;

$R^{25}$  is hydrogen, phenyl, or furyl;

$R^{26}$  is  $C_1$ - $C_3$  alkyl optionally substituted with one or two fluorine atoms;

$R^{27}$  is  $C_1$ - $C_3$  alkyl,  $C_3$ - $C_5$  cycloalkyl,  $C_2$ - $C_3$  alkenyl,  $C_1$ - $C_3$  alkoxy,  $NR^{28}R^{29}$ , pyrrolidin-1-yl optionally substituted with methyl or one or two fluorine atoms, piperidin-1-yl, phenyl, pyridinyl, or furyl;

$R^{28}$  is hydrogen or methyl;

$R^{29}$  is methyl, ethyl, or propyl;

$R^{30}$  is hydrogen or methyl;

$R^{31}$  is methyl; or

$R^{30}$  and  $R^{31}$  taken together with the nitrogen atom to which they are attached form a pyrrolidine or piperidine ring;

$R^{32}$  is  $C_1$ - $C_{10}$  alkyl optionally substituted with 1-6 fluorine atoms, oxo, or one or two hydroxy groups,  $C_2$ - $C_6$  alkenyl, or  $-(CH_2)_{0-3}-R^{33}$ ;

$R^{33}$  is  $C_3$ - $C_7$  cycloalkyl or phenyl each optionally substituted with one or two substituents independently selected from the group consisting of halo,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy, hydroxy, trifluoromethyl, and trifluoromethoxy, or  $R^{33}$  is adamantyl;

$R^{34}$  is hydrogen,  $R^{32}$ , or  $-(CH_2)_{0-2}-OR^{32}$ ;

$R^{35}$  is hydroxy,  $C_1$ - $C_6$  alkoxy, or  $NR^{37}R^{38}$  where  $R^{37}$  and  $R^{38}$  are independently hydrogen or  $C_1$ - $C_6$  alkyl, or  $R^{37}$  and  $R^{38}$ , taken together with the nitrogen to which they are attached, form a piperidine ring optionally substituted with  $C_1$ - $C_6$  alkyl, a homopiperidine ring, a morpholine ring, or a pyrrolidine ring optionally substituted with  $(C_1$ - $C_6$  alkoxy)methyl;

$R^{36}$  is  $C_1$ - $C_6$  alkyl or adamantyl;

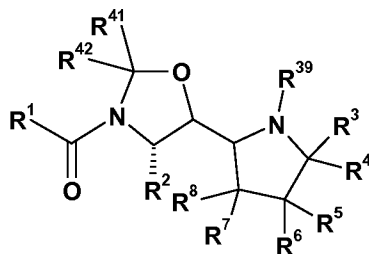
$R^{39}$  is hydrogen or a nitrogen protecting group;

$R^{40}$  is hydrogen or an oxygen protecting group;

or an acid addition salt thereof; provided that: a) no more than one of X, Y, and Q may be N or  $N^+-O^-$ ; b) when X is CH, Y is  $CR^{16}$ , and Q is  $CR^{17}$ , then one of  $R^{16}$  and  $R^{17}$  is other than hydrogen; and c) at least one of  $R^{39}$  and  $R^{40}$  is other than hydrogen.

Claim 10 (Original): A compound of Formula IV:

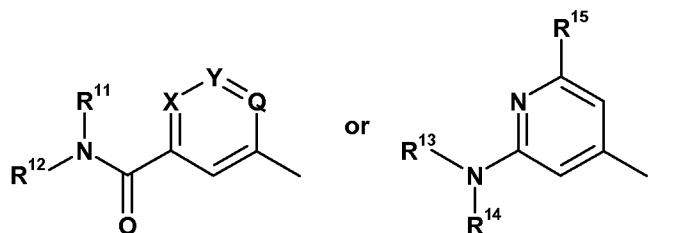




IV

where:

$R^1$  is  $(C_3-C_7 \text{ cycloalkyl})_{0-1}(C_1-C_6 \text{ alkyl})$ ,  $(C_3-C_7 \text{ cycloalkyl})_{0-1}(C_2-C_6 \text{ alkenyl})$ ,  $(C_3-C_7 \text{ cycloalkyl})_{0-1}(C_2-C_6 \text{ alkynyl})$  or  $C_3-C_7 \text{ cycloalkyl}$ , each optionally substituted with up to three groups independently selected from halo, hydroxy, thiol, cyano, trifluoromethyl, trifluoromethoxy,  $C_1-C_6$  alkoxy,  $C_3-C_7$  cycloalkoxy, oxo, and  $NR^9R^{10}$ , hydrogen, biphenyl



substituted with halo,

X is CH, N, or  $N^+-O^-$ ;

Y is  $CR^{16}$ , N, or  $N^+-O^-$ ;

Q is  $CR^{17}$ , N, or  $N^+-O^-$ ;

$R^2$  is  $C_1-C_3$  alkyl, benzyl optionally monosubstituted in the phenyl ring with a substituent selected from the group consisting of halo,  $C_1-C_6$  alkoxy optionally substituted in the alkyl chain with  $C_3-C_7$  cycloalkyl, and  $C_1-C_6$  alkylthio optionally substituted in the alkyl chain with  $C_3-C_7$  cycloalkyl, or benzyl optionally disubstituted in the phenyl ring with a first substituent independently selected from halo and a second substituent independently selected from halo,  $C_1-C_6$  alkoxy optionally substituted in the alkyl chain with  $C_3-C_7$  cycloalkyl, and  $C_1-C_6$  alkylthio optionally substituted in the alkyl chain with  $C_3-C_7$  cycloalkyl;

$R^3$  is hydrogen or  $C_1-C_6$  alkyl;

$R^4$  is hydrogen,  $C_1-C_6$  alkyl, or phenyl;

$R^3$  and  $R^4$  taken together with the carbon to which they are attached form a  $C_3-C_6$  cycloalkyl ring;

$R^5$  is hydrogen, fluoro, trifluoromethyl,  $R^{32}$ , or phenyl optionally monosubstituted with  $C_1-C_6$  alkyl or  $C_1-C_6$  alkoxy;

$R^6$  is fluoro, hydroxy, *p*-toluenesulfonyloxy,  $R^{34}$ ,  $-CH_2C(O)R^{35}$ , or

$-\text{OC}(\text{O})\text{NHR}^{36}$ ; or  $\text{R}^5$  and  $\text{R}^6$  taken together form  $=\text{CHC}(\text{O})(\text{C}_1\text{-C}_4 \text{ alkoxy})$  or oxo;

$\text{R}^7$  is hydrogen or fluoro; or  $\text{R}^6$  and  $\text{R}^7$  taken together form a bond;

$\text{R}^8$  is hydrogen or fluoro;

$\text{R}^9$  is hydrogen,  $\text{C}_1\text{-C}_6$  alkyl, or phenyl;

$\text{R}^{10}$  is hydrogen,  $\text{C}_1\text{-C}_6$  alkyl, phenyl,  $-\text{C}(\text{O})(\text{C}_1\text{-C}_6 \text{ alkyl})$ , or  $-\text{SO}_2(\text{C}_1\text{-C}_6 \text{ alkyl})$ ;

$\text{R}^{11}$  and  $\text{R}^{12}$  are independently selected from the group consisting of methyl, ethyl, and propyl;

$\text{R}^{13}$  is hydrogen or  $\text{C}_1\text{-C}_6$  alkyl;

$\text{R}^{14}$  is  $\text{C}_3\text{-C}_5$  cycloalkyl,  $\text{C}_1\text{-C}_6$  alkyl, or  $-\text{CH}_2\text{R}^{18}$ ;

$\text{R}^{15}$  is  $-\text{CF}_2\text{R}^{19}$ ,  $-\text{OR}^{20}$ ,  $-\text{CH}_2\text{C}(\text{O})\text{CH}_3$ ,  $-\text{S}(\text{O})_{1-2}\text{R}^{21}$ ,  $-\text{NR}^{22}\text{SO}_2\text{R}^{23}$ ,  $(\text{C}_1\text{-C}_3 \text{ alkoxy})$ -carbonyl, phenyl optionally substituted with halo, 1,3-dioxolan-2-yl, 1,3-dioxan-2-yl, 1,1-dioxo-2,3,4,5-tetrahydroisothiazol-2-yl, or tetrazol-5-yl optionally substituted with  $\text{C}_1\text{-C}_3$  alkyl;

$\text{R}^{16}$  is hydrogen, chloro, isobutyl,  $\text{CH}_2\text{R}^{24}$ ,  $\text{CF}_2\text{R}^{25}$ , 1,1,1-trifluoro-2-hydroxyeth-2-yl,  $\text{C}_2\text{-C}_4$  alkenyl optionally substituted with one or two fluorine atoms,  $\text{OR}^{26}$ ,  $\text{C}(\text{O})\text{R}^{27}$ , N(methyl)(methylsulfonyl), N(methyl)(acetyl), pyrrolidin-2-on-1-yl, methylsulfonyl, N,N-dimethylaminosulfonyl, phenyl optionally substituted with one or two substituents selected from the group consisting of hydroxymethyl, methoxy, fluoro, and methylsulfonyl, 1,3-dioxolan-2-yl, 1,3-dithiolan-2-yl, 1,3-oxathiolan-2-yl, 1,3-dioxan-2-yl, 1,3-dithian-2-yl, pyridinyl, thiazolyl, oxazolyl, or 1,2,4-oxadiazolyl optionally substituted with methyl;

$\text{R}^{17}$  is hydrogen or fluoro;

$\text{R}^{18}$  is ethynyl or cyclopropyl;

$\text{R}^{19}$  is hydrogen or methyl;

$\text{R}^{20}$  is difluoromethyl or methanesulfonyl;

$\text{R}^{21}$  is  $\text{C}_1\text{-C}_4$  alkyl,  $\text{C}_3\text{-C}_6$  cycloalkyl, phenyl, or  $-\text{NR}^{30}\text{R}^{31}$ ;

$\text{R}^{22}$  is hydrogen,  $\text{C}_1\text{-C}_3$  alkyl optionally substituted with up to 3 fluorine atoms, or  $\text{C}_3\text{-C}_6$  cycloalkyl;

$\text{R}^{23}$  is  $\text{C}_1\text{-C}_3$  alkyl or  $\text{C}_3\text{-C}_6$  cycloalkyl;

$\text{R}^{24}$  is fluoro, hydroxy, or  $\text{C}_1\text{-C}_3$  alkoxy;

$\text{R}^{25}$  is hydrogen, phenyl, or furyl;

$\text{R}^{26}$  is  $\text{C}_1\text{-C}_3$  alkyl optionally substituted with one or two fluorine atoms;

$\text{R}^{27}$  is  $\text{C}_1\text{-C}_3$  alkyl,  $\text{C}_3\text{-C}_5$  cycloalkyl,  $\text{C}_2\text{-C}_3$  alkenyl,  $\text{C}_1\text{-C}_3$  alkoxy,  $\text{NR}^{28}\text{R}^{29}$ , pyrrolidin-1-yl optionally substituted with methyl or one or two fluorine atoms, piperidin-1-yl, phenyl, pyridinyl, or furyl;

$R^{28}$  is hydrogen or methyl;

$R^{29}$  is methyl, ethyl, or propyl;

$R^{30}$  is hydrogen or methyl;

$R^{31}$  is methyl; or

$R^{30}$  and  $R^{31}$  taken together with the nitrogen atom to which they are attached form a pyrrolidine or piperidine ring;

$R^{32}$  is  $C_1$ - $C_{10}$  alkyl optionally substituted with 1-6 fluorine atoms, oxo, or 1 or 2 hydroxy groups,  $C_2$ - $C_6$  alkenyl, or  $-(CH_2)_{0-3}-R^{33}$ ;

$R^{33}$  is  $C_3$ - $C_7$  cycloalkyl or phenyl each optionally substituted with one or two substituents independently selected from the group consisting of halo,  $C_1$ - $C_6$  alkyl,  $C_1$ - $C_6$  alkoxy, hydroxy, trifluoromethyl, and trifluoromethoxy, or  $R^{33}$  is adamantyl;

$R^{34}$  is hydrogen,  $R^{32}$ , or  $-(CH_2)_{0-2}-OR^{32}$ ;

$R^{35}$  is hydroxy,  $C_1$ - $C_6$  alkoxy, or  $NR^{37}R^{38}$  where  $R^{37}$  and  $R^{38}$  are independently hydrogen or  $C_1$ - $C_6$  alkyl, or  $R^{37}$  and  $R^{38}$ , taken together with the nitrogen to which they are attached, form a piperidine ring optionally substituted with  $C_1$ - $C_6$  alkyl, a homopiperidine ring, a morpholine ring, or a pyrrolidine ring optionally substituted with  $(C_1$ - $C_6$  alkoxy)methyl;

$R^{36}$  is  $C_1$ - $C_6$  alkyl or adamantyl;

$R^{39}$  is hydrogen or a nitrogen protecting group;

$R^{41}$  and  $R^{42}$  are independently selected from methyl, ethyl, and propyl;

or an acid addition salt thereof; provided that no more than one of X, Y, and Q may be N or  $N^+-O^-$ .

Claim 11 (Previously presented): A method for the inhibition of production of A- $\beta$  peptide comprising administering to a mammal in need of such treatment an effective amount of a compound of Claim 1.

Claim 12 (Cancelled)